

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6 1445 ROSS AVENUE, SUITE 1200 DALLAS TX 75202-2733

DEC 1 8 2013

Mr. Richard Kunze Public Works Director 1601 South Gordon Cooper Dr. Shawnee, OK 74801

Dear Mr. Kunze:

Enclosed please find the Sanitary Survey report for the Firelake Grand Casino Water System (PWS#061020808). A Sanitary Survey is a comprehensive evaluation of the source, pumps and pumping facilities, treatment, distribution (including storage facilities), laboratory facilities, management and operator qualifications at a public water system. The report contains a section entitled "Deficiencies" that lists deficiencies and recommendations, split into the following categories:

Significant Deficiencies: These deficiencies must be corrected or be on an approved schedule to be corrected within 120 days of receipt of this letter.

<u>Deficiencies</u>: These deficiencies are to be corrected prior to the next sanitary survey (approximately 3 years).

<u>Recommendations</u>. Recommendations are provided by the surveyors. Addressing recommendations is voluntary.

Please submit a report to this office by April 19, 2014, (120 days from receipt of this letter) indicating a schedule for correcting the significant deficiencies. Failure to do so will place the water system in violation of the National Primary Drinking Water Regulations. The schedule may be submitted to:

José G. Rodriguez
Source Water Protection Branch (6WQ-SD)
EPA Region 6
1445 Ross Ave.
Dallas, TX 75202
rodriguez.jose@epa.gov

The sanitary survey documented in the enclosed report was conducted by Mr. José G. Rodriguez of my staff and Mr. Bill Davis of Bill Davis Consulting on November 20, 2013. I would like to thank Mr. Keith Jennings for his assistance with the survey. Please call Mr. Rodriguez at (214) 665-8087 if you have any questions regarding the enclosed report.

Sincerely yours,

Blake L. Atkins

Chief

Drinking Water Section

Blass J. ac

Enclosure

cc: (w/enclosure)

Keith Jennings Utilities Manager 777 Grand Casino Blvd Shawnee, OK 74804



EPA Region 6 Sanitary Survey Form System Information and Contacts

| PWSS Number | | Water Systen | System Name Dat | | | | |
|--------------------------------------|----------------------|---------------------------|---------------------------|----------------------------------------------|------------------|----------------------|--|
| 061020808 | | Firelake Gran | d Casino Wat | | 11/20/13 | | |
| Basic System | Infor | mation | | d. | | | |
| Recommended Co | ertificat | tion Level | | | | | |
| | | | ODEQ lev | el 3 | | | |
| System Classificat (C-NTNC-NC) | tion | Service Area Type Code | Seasonal (Y/N) | | | nd Date | |
| С | | R | N | N/A | | N/A | |
| Legal Entity | Nam | e | Address | | Phone Number | Legal Entity Code | |
| Administrative Contact | Fig. 50 construction | ard Kunze ic Works | 1601 South Shawnee, O | Gordon Cooper Dr. K 74801 | 404-275- 3121 | AC | |
| Operator in Responsible Charge | Keith Mana | n Jennings ager | 777 Grand (Shawnee, O | Casino Blvd K 74804 | 405-248- 0993 | DO | |
| Utility Director | | | | | | | |
| Operator | See I | List on next page | | | | * | |
| Names of Sanitary Survey Inspectors | | y Inspectors | | Iriguez, US EPA Reg Bill Davis Consulting | | | |
| Name of Operators Present | | Keith Jennings | | | | | |



EPA Region 6 Sanitary Survey Form System Information and Contacts

| Name | Position | Certification/Agency | Expiration Date |
|----------------|----------------------------------|-------------------------------------------------------|-------------------------|
| Dale Dean | Operator | B Operations (ODEQ) B Lab (ODEQ) | tene informalie |
| Keith Jennings | Manager | C Operations (ODEQ) C Lab (ODEQ) C Waste water (ODEQ) | 7/14 |
| Josh Jenkins | Operator | D Operations (ODEQ) | |
| Don Martindale | Operator (at McComb water plant) | B Operations (ODEQ) A Lab (ODEQ) | muse nemons ergi = E |
| Imp. I dan | | Address | semi/CT |



EPA Region 6 Sanitary Survey Form General Information

| Residential Population | Transient Population | Non-Transient Population | Number Connections | Primary Source Code | | | |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------|--|--|--|
| 300 | 2000 | 1200 | 120 | G | | | |
| Average Daily Demand (MGD) | Peak Daily Demand (MGD) | | | tion Capacity | | | |
| 110K gpd | 15 | 0 K gpd | 432 | K gpd | | | |
| Is the source capacity adequate? Yes (Not all sources | Have there been any customers without water in the last year? If so, how many incidences and how many days? | | | | | | |
| are metered) List of Facilities and | 12 Wells: | | No | ST Witness III | | | |
| Description | Wells K4, K completed an Wells on the Well 3, Well Batch Plant S Storage tar Grand Casin Coker Tank 3 Tanks at the Finished Wa 2 Booster Pur Booster pum | o Tank Teatment plant ter Tank) To Station er Pump Station (Tank) | s) wells at the rive on tre: South Well, , Batch Plant Ea | r, drilled but no , North Well, est Well and | | | |
| | A separate Gray water system is present at the Grand Casino that is used to flush toilets in the casino and hotel (About 25K gpd) | | | | | | |

Planned Future Capital Improvement Projects

They are laying 12 miles of pipe that will connect this system with Potawatomi RWD 3, which receives water from the McComb Plant. The tribe owns both systems but the RWD is not on trust territory so it is regulated by ODEQ The interconnection will really result in one water system but they will stay separate on the inventory to allow EPA to regulate the trust land (Firelake Grand Casino) system and ODEQ to regulate the RWD. The tribe intends to continue using the treatment facilities and the wells at the Firelake Grand Casino system after the interconnection.

There are plans to add a well house at K2 and raise the casing above the floodplain.

There are plans to convert the K3 well from a pitless adapter configuration to a vertical well.

There are plans to complete Wells K4, K5, and K6 and put them in service. A well house and appurtenances will be added to all three wells.

At the treatment plant, there are plans to install a second GAC filter, in parallel with the existing GAC filter.



| Basic Well I | | The same of the sa | | | | | | | |
|------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------|-------------|-------------------------|----------|---------|-------------------------|
| Well Name | C | imp apacity pm) | Well Depth | Dep Inta | th of ke | Availa Code | | | ivity le (A,I) |
| K2 | 17 | 5 gpm | 200 | 160- | 180' | P | | A | |
| Pumping records kep | Da | ate onstructed | Static Wate Level | | ing | Casin Diame (in.) | | Pui | np rsepowe |
| Yes | | 2007 | 20' | p | VC | 8 | ,, | | 20 |
| Power Phas | e | 2007 | Pump contraprotected? | | <u>, c</u> | Auxili | ary | H | 20 |
| | 3 | | uno elbin. | l'es | | N | No | | |
| Well Conditi | ons | | | | | | | | |
| Is site secur | ity Adequ | uate? | | | | | | | No |
| Is well hous | e or pum | p subject to | flooding? | 82 111 | faw ad | banos | a haa s | , busin | Yes |
| Does all equ | ipment h | ave adequa | te access for r | epair/re | placen | nent? | a roise | p 11 | Yes |
| Is lightning | protectio | n available | for the pump | ? | | 175 | lenga li | | No |
| Has the pun | np or con | trols ever b | een damaged | by light | ning? | e iint y | 04.774 | | No |
| Is electrical | equipme | nt secured a | against weath | er, insec | ts and | animals | ? | | Yes |
| Are pumps | equipped | with elapse | ed time meters | ? | essility . | | | | Yes |
| Is there an | emergenc | y connectio | n to another w | ater so | urce? | 17 18811 | | | Planned |
| Are operation | onal reco | rds maintai | ned? | | | | | | Yes, Elapsed Time |
| Type alarm | present f | for pump fa | ilure? | | | | | | SCADA alarm |
| Is the Pump equipped with the following? | Check Valve | Isolation Valve | Pressure Gauge | Air Relief Valve | Flov Met | | Disinfe | | System |
| | Buried | Yes | No | No | Bu | ried | | Yes | 3 |



| Well Name | K2 |
|----------------------------------------------------------------------------|--------------------|
| Does the well have a blow off? | No |
| Does the well have a raw water sample tap? | No |
| Does the well have a treated water sample tap? | Yes |
| Does the casing extend at least 18" above the ground? | No* |
| Is the well vent height at least 18" above ground level? | No* |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | No** |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | No |
| Is the well under the influence of surface water? | No |
| Does the well need a GUDI test/evaluation? | No |
| Is the well near any sources of contamination? | No |
| Does the system monitor raw water quality? | Yes, Fe, Mn, pH |
| Has there been a source water assessment at this well? | No |

* There are plans to raise the well head and vent because the well is in an area where flooding has occurred in the past.

** There is a small hole next to the screen in the well cap that compromises the sanitary seal.



| nformatic | n | | | | | | |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C | apacity | Well Dept | mental. In the contract of | | 4 3000000000000000000000000000000000000 | | Activity Code (A,I) |
| | | 200 | 10 | 60-180 | | P | Α |
| | onstructed | Level | | ype | Diam (in.) | eter | Pump Horsepowe |
| e | 2007 | Pump con | | Steel | Auxil | iary | 40 |
| 3 | | | Yes | | l N | lo. | |
| SATURDAY | | | | | | | |
| ity Adequ | uate? | yo to salat? | mil orrs | dision | мын | | No |
| e or pum | p subject to | flooding? | 7500 | | -11 | | Yes |
| ipment h | ave adequa | te access for | repair | /replacen | nent? | | Yes |
| protectio | n available | for the pum | p? | | * | | No |
| ip or con | trols ever b | een damageo | l by lig | ghtning? | | | No |
| equipme | nt secured a | against weatl | ier, ins | sects and | animal | s? | Yes |
| equipped | with elapse | ed time meter | rs? | | | | Yes |
| mergenc | y connectio | n to another | water | source? | Ťi. | | Planned* |
| onal reco | rds maintai | ned? | | NICKO III. | | | Yes, Elapsed Time |
| present i | for pump fa | ilure? | | | | | SCADA alarm |
| Check Valve | Isolation Valve | Pressure Gauge | | ef Met | 22 | Disinfe | ction System |
| Buried | buried | No | No | Buri | ed | Yes | |
| | e 3 ons ity Adequate or pum ipment h protection ap or con equipme equipme cmergence onal reco present f Check Valve | a 2007 e 3 ons ity Adequate? e or pump subject to ipment have adequate protection available approtection available approtection available equipment secured are equipment secured are equipment with elapse emergency connection on all records maintain present for pump fare Check Isolation Valve Valve | Pump Capacity (gpm) 300 gpm* Date Constructed 2007 Pump con protected? The protection available for the pump por controls ever been damaged equipment secured against weath equipped with elapsed time meter mergency connection to another mal records maintained? Check Isolation Valve Valve Well Dept Well Dept Well Dept Well Dept Well Dept Well Dept Pump 200 Static Wan Level Static Wan Level Static Wan Level Pump con protected? Pump con protected? Pump con protected? Pump against weath equipment secured against weath equipped with elapsed time meter mergency connection to another ponal records maintained? Check Isolation Valve Gauge | Pump Capacity (gpm) 300 gpm* 200 10 Date Static Water Level T 2007 20° Pump controls protected? 3 Yes ons ity Adequate? e or pump subject to flooding? ipment have adequate access for repair protection available for the pump? on or controls ever been damaged by light equipment secured against weather, insequipped with elapsed time meters? emergency connection to another water onal records maintained? Check Isolation Pressure Air Valve Valve Gauge Relies Valve | Pump Capacity (gpm) 300 gpm* 200 160-180' Date Static Water Casing Type 2007 20' Steel Pump controls protected? 3 Yes conscity Adequate? e or pump subject to flooding? ipment have adequate access for repair/replacement or protection available for the pump? In por controls ever been damaged by lightning? equipment secured against weather, insects and equipped with elapsed time meters? Immergency connection to another water source? Important records maintained? Check Isolation Pressure Air Source Source Gauge Relief Valve Valve Gauge Relief Valve | Pump Capacity (gpm) 300 gpm* 200 160-180' Date Constructed Level Type Diam (in.) 2007 20' Steel Auxil protected? Pump controls protected? Pump controls protected? e or pump subject to flooding? ipment have adequate access for repair/replacement? protection available for the pump? approximately and a pump subject to flooding? ipment have adequate access for repair/replacement? protection available for the pump? approximately approximate | Pump Capacity (gpm) 300 gpm* 200 160-180' P Date Constructed Level Type Diameter (in.) S' P 2007 20' Steel S' Steel S' S' Pump controls protected? Yes No Pump controls protected? Yes No constity Adequate? The or pump subject to flooding? Important have adequate access for repair/replacement? In or controls ever been damaged by lightning? The or controls ever been damaged by lightning? |

* The well is equipped with a variable frequency drive (VFD) that is set to maintain a pressure and flow rate at the manifold where the wells join.

** There are plans to construct a 12 mile water line to connect with Potawatomi RWD 3.



| Well Conditions cont'd | |
|----------------------------------------------------------------------------|--------------------|
| Well Name | |
| Does the well have a blow off? | K3 No |
| Does the well have a raw water sample tap? | |
| Does the well have a treated water sample tap? | No |
| STANDARD STREET STREET | Yes |
| Does the casing extend at least 18" above the ground? | No* |
| Is the well vent height at least 18" above ground level? | No* |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | No** |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | No |
| Is the well under the influence of surface water? | No |
| Does the well need a GUDI test/evaluation? | No |
| Is the well near any sources of contamination? | No |
| Does the system monitor raw water quality? | Yes, Fe, Mn, pH |
| Has there been a source water assessment at this well? | No |

^{*} There are plans to convert the well to vertical well and raise the casing and vent. because the well has flooded in the past.

^{**} The well cap is broken.



| | Ca | mp pacity om) | Well Depth | Depth of Intake | | ailability de (P,E) | | tivity de (A,I) |
|-------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|------------------------|----------|----------------------------------------------------------------|
| K4 | Un | known | 50' | 20-40' | | P | | I |
| Pumping records kept | Pa Co | | Static Water Level | Casing Type | E0.5826 | iameter H | | mp orsepower |
| They will b | 1 | mplete) | Unknown | PVC | 411 | 8" | Unknov | |
| Power Phase | | | Pump contro protected? | ls | 100000000000000000000000000000000000000 | xiliary ver? | • | |
| | Will be 3 | | They v | vill be | | No | | |
| Well Condition | | | | | WE L | | | |
| Is site securit | ty Adequ | iate? | | | | | | No |
| Is well house | or pum | p subject to | flooding? | vode "ki r | stal In) | ileba ma | y 11 | N/A |
| | | | | | | | - 1 | |
| Does all equi | pment h | ave adequat | e access for re | pair/repla | cement? | ? | | Yes |
| | | - | e access for re | pair/replac | cement? | ? | e IFRO | Yes N/A |
| Is lightning p | rotectio | n available í | ur Sudad au | | | ? | e uya fi | |
| Is lightning p | p or con | n available i | for the pump? | y lightning | <u>;</u> ? | | | N/A |
| Is lightning p Has the pum Is electrical e | p or con | n available f trols ever be nt secured a | for the pump? | y lightning | <u>;</u> ? | | | N/A No N/A They will be |
| Is lightning p Has the pum Is electrical e | p or con equipment | n available f trols ever be nt secured a with elapse | for the pump? een damaged b | y lightning | g? nd anim | | | N/A No N/A They will |
| Is lightning p Has the pum Is electrical e | p or con equipment equipped mergenc | n available for trols ever be not secured a with elapse y connection | for the pump? een damaged b gainst weather d time meters? n to another w | y lightning | g? nd anim | | | N/A No N/A They will be |
| Is lightning p Has the pum Is electrical e Are pumps e Is there an electrical | p or con equipment equipped mergence | n available for trols ever be not secured a with elapse y connection rds maintain | for the pump? een damaged b gainst weather d time meters? n to another we ned? | y lightning | g? nd anim | | | N/A No N/A They will be Planned They will be Will be |
| Is lightning p Has the pum Is electrical e Are pumps e Is there an en Are operation | p or con equipment equipped mergence | n available for trols ever be not secured a with elapse y connection rds maintain | for the pump? een damaged b gainst weather d time meters? n to another waned? llure? Pressure Gauge | y lightning , insects an | g? nd anim | nals? | ectio | N/A No N/A They will be Planned They will be Will be done thru |



| Well Conditions cont'd | |
|----------------------------------------------------------------------------|--------------------|
| Well Name | K4 |
| Does the well have a blow off? | Not yet |
| Does the well have a raw water sample tap? | Not yet |
| Does the well have a treated water sample tap? | Yes |
| Does the casing extend at least 18" above the ground? | Yes |
| Is the well vent height at least 18" above ground level? | It will |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | N/A |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | Not yet |
| Is the well under the influence of surface water? | Possibly |
| Does the well need a GUDI test/evaluation? | Yes |
| Is the well near any sources of contamination? | No, just the river |
| Does the system monitor raw water quality? | It will be |
| Has there been a source water assessment at this well? | No |



| Well Name | Ca | mp pacity om) | Well Depth | Depth o Intake 20-40' 120-140 | Code | | 100000 | tivity de (A,I) |
|-------------------------|-----------|------------------------|---------------------------|----------------------------------------|-------------------------|--------------------|--------|----------------------------------------|
| K5 | Ur | known | 220' | 160-180 | 301 |) | | I |
| Pumping records kept | ? Da Co | nstructed /13 (Not yet | Static Water Level | Casing Type | Casin Diame (in.) | g eter | Но | mp orsepower |
| They will b | | mplete) | Unknown | PVC | 8 | | l | Jnknown |
| Power Phase | | | Pump contro protected? | IS | Auxili power | | | |
| V | Will be 3 | | They v | vill be | N | Ю | | |
| Well Condition | ns | | | | | | | |
| Is site securit | y Adequ | ate? | | | | | | No |
| Is well house | or pum | p subject to | flooding? | | | | | N/A |
| Does all equi | pment h | ave adequat | e access for re | pair/repla | cement? | lius ya | elų | Yes |
| Is lightning p | rotectio | n available f | for the pump? | | | - 44 | | N/A |
| Has the pum | p or con | trols ever be | en damaged b | y lightnin | g? | n gar | 4- | No |
| Is electrical e | quipme | nt secured a | gainst weather | , insects a | nd animals | s? | | N/A |
| Are numps e | quipped | with elapse | d time meters? | | | | | |
| F F | | | | | | | | They will be |
| | nergenc | y connection | to another wa | | e? | B gota | | They will be Planned |
| | | | | | e? | Brastin Green | 2 14 | be Planned |
| Is there an e | nal reco | rds maintair | ned? | | e? | Brastia Grant D | 2 P. | Planned They will be Will be |
| Is there an e | nal reco | rds maintair | lure? Pressure Gauge | ater sourc | 1.16077 | Disinfe | ectio | Planned They will be Will be done thru |



| Well Name | K5 |
|----------------------------------------------------------------------------|--------------|
| Does the well have a blow off? | Not yet |
| Does the well have a raw water sample tap? | Not yet |
| Does the well have a treated water sample tap? | Yes |
| Does the casing extend at least 18" above the ground? | Yes |
| Is the well vent height at least 18" above ground level? | It will |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | N/A |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | Not yet |
| Is the well under the influence of surface water? | Possibly |
| Does the well need a GUDI test/evaluation? | Yes |
| Is the well near any sources of contamination? | No, just the |
| Does the system monitor raw water quality? | It will be |
| Has there been a source water assessment at this well? | No |



| Well Name | | ımp | Well Depth | Deptl | | vailability | Activ | TO STATE OF THE PARTY. |
|----------------------------|----------------|-----------------------|--------------------------|------------------------|---------------|----------------------------|----------|----------------------------|
| | | apacity | | Intak | | Code (P,E) | Code | (A,I) |
| | (g | pm) | | 20-40 | | | | |
| K6 | T 1- | ıknown | 220' | 120-1 160-1 | | P | | T |
| | | iknown ate | Static Water | | | | D | I |
| Pumping records kep | t? Co | onstructed | Level | Casin Type | D | Casing Diameter in.) | | |
| They will | | /13 (Not yet omplete) | Unknown | PV | C C | 8" | Unk | nown |
| Power Phase | | | Pump contr protected? | ols | | uxiliary ower? | aw si | esoff. |
| | Will be 3 | | They | will be | | No | | |
| Well Conditi | ons | | | | | | | |
| Is site securi | ity Adequ | uate? | | | | | | No |
| Is well house | e or pum | p subject to | flooding? | grade 4 | AT toest t | | ev U age | N/A |
| Does all equ | ipment h | ave adequat | e access for re | epair/rep | olacemer | nt? | | Yes |
| Is lightning | protectio | n available 1 | for the pump? | - | | | | N/A |
| Has the pun | ip or con | trols ever be | een damaged l | y lightn | ing? | | | No |
| Is electrical | equipme | nt secured a | gainst weathe | r, insect | s and an | imals? | | N/A |
| Are pumps | equipped | with elapse | d time meters | ? | an sal b | пьсти беод | The be | ney wil |
| Is there an e | emergenc | y connection | n to another w | ater sou | rce? | | P | lanned |
| Are operation | onal reco | rds maintair | ned? | | | | Tł be | ney wil |
| Type alarm | present f | for pump fai | lure? | inentere | Di testi | 15) s frest li | do | ill be one thru CADA |
| Is the Pump equipped | Check Valve | Isolation Valve | Gauge | Air Relief Valve | Flow Meter | Disinfe | | |
| with the | | | | | A | | | |



| Well Name | K6 |
|----------------------------------------------------------------------------|--------------------|
| Does the well have a blow off? | Not yet |
| Does the well have a raw water sample tap? | Not yet |
| Does the well have a treated water sample tap? | Yes |
| Does the casing extend at least 18" above the ground? | Yes |
| Is the well vent height at least 18" above ground level? | It will |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | N/A |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | Not yet |
| Is the well under the influence of surface water? | Possibly |
| Does the well need a GUDI test/evaluation? | Yes |
| Is the well near any sources of contamination? | No, just the river |
| Does the system monitor raw water quality? | It will be |
| Has there been a source water assessment at this well? | No |



| | Ca | mp pacity om) | Well Depth | Depth of Intake | Availability Code (P,E) | 1000 | ctivity ode (A,I) |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------|----------------------------------|----------------|----------------------------------|
| South We | 11 40- | -50 | 200' | Unknown | P | | Α |
| Pumping records kept | Da | | Static Water Level | Casing Type | Casing Diameter (in.) | | ımp orsepowei |
| Yes | 20 | 06 | 40' | PVC | 8" | | 5 |
| Power Phase | | | Pump contro protected? | | Auxiliary power? | | Sill each |
| | 3 | | Ye | s | Yes | | |
| Well Conditi | ons | | | | | | |
| Is site securi | ty Adequ | ate? | | | | | No |
| Is well house | e or pum | p subject to | flooding? | Year | inter gall | М | No |
| Does all equ | ipment h | ave adequa | te access for re | pair/replace | ment? | 4251 | Yes |
| Is lightning | protectio | | a o | | | | |
| | protectio | n available | for the pump? | | | WH. | No |
| Has the pun | | | for the pump? | y lightning? | agBareal) esta ABL) des boord | | No No |
| | ip or con | trols ever b | | | | ratell Nove | |
| Is electrical | ip or con | trols ever b | een damaged b | , insects and | | ur il | No |
| Is electrical Are pumps | ip or con equipme equipped | trols ever b nt secured a with elapse | een damaged b | , insects and | | uril | No Yes Yes |
| Is electrical Are pumps | ip or con equipme equipped emergenc | trols ever b nt secured a with elapso y connectio | een damaged by ngainst weather ed time meters? n to another wa | , insects and | | | No Yes Yes |
| Is electrical Are pumps Is there an e | equipment of the contract of t | trols ever b nt secured a with elapso y connectio rds maintai | een damaged by against weather ed time meters? In to another waned? | , insects and | | male male | No Yes Yes Planned |
| Is electrical Are pumps | equipment of the contract of t | trols ever b nt secured a with elapso y connectio rds maintai | een damaged by against weather ed time meters? In to another waned? Ilure? Pressure Gauge I | , insects and | w Disinf | ectio | No Yes Yes Planned Yes Done thru |



Sanitary Survey Form Sources

| Well Name | South Well |
|----------------------------------------------------------------------------|--------------------|
| Does the well have a blow off? | No |
| Does the well have a raw water sample tap? | No |
| Does the well have a treated water sample tap? | Yes |
| Does the casing extend at least 18" above the ground? | No |
| Is the well vent height at least 18" above ground level? | No |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | No* |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | No |
| Is the well under the influence of surface water? | No |
| Does the well need a GUDI test/evaluation? | No |
| Is the well near any sources of contamination? | Yes** |
| Does the system monitor raw water quality? | Yes: Fe, Mn, pH |
| Has there been a source water assessment at this well? | No |

* There is a gap in the well where a rope enters the well casing, compromising the sanitary seal.

** The well is located about 20 feet from a roadway and about 100' from a pond used for geothermal cooling/heating.



| Well Name | Pu | mp | Well Depth | Depth | of Av | ailability | Ac | tivity |
|----------------------------------------|----------------|--------------------|---------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------|-----------------------|
| | Ca | pacity | • | Intake | The state of the s | de (P,E) | 100000000000000000000000000000000000000 | de (A,I) |
| | (gr | om) | | | | | | |
| North Wel | 1 40- | -50 | 200' | Unkno | wn | P | | Α |
| Pumping | Da | te | Static Water | Casing | Ca | sing | Pu | mp |
| records kept | ? Co | nstructed | Level | Туре | | ımeter | | orsepowe |
| Yes | 200 | 06 | 40' | PVC | 2 | 8" | | 5 |
| Power Phase | | | Pump contro protected? | ols | | xiliary wer? | K 3 | edi risti. |
| | 3 | | Y | es | december 1 | Yes | | ds the w |
| Well Condition | ons | | | | C. The | | | |
| Is site securi | ty Adequ | ate? | | | | | | No |
| Is well house | or pum | p subject to | flooding? | | gnideel i | | | No |
| Does all equi | pment h | ave adequa | te access for re | pair/rep | acement | ? | alge | Yes |
| Is lightning [| protectio | n available | for the pump? | adites in | tomarda | e sylt mellog | gr (I | No |
| Has the pum | p or con | trols ever b | een damaged b | y lightni | ng? | ha lidge 1 | 60 | No |
| Is electrical | equipme | nt secured a | igainst weathe | r, insects | and anin | nals? | a Di | Yes |
| Are pumps e | quipped | with elapse | ed time meters | 2 | | goin re-s | eve- | Yes |
| Is there an e | mergenc | y connectio | n to another w | ater sour | ce? | | | Planned |
| Are operation | nal reco | rds maintai | ned? | alpuseens y | 1010/07 | THE RESE | ıle | Yes |
| Type alarm | present f | or pump fa | ilure? | oo Biri Vi Ali mubis | esta dio | males etgan | | Done thru SCADA |
| Is the Pump equipped with the | Check Valve | Isolation Valve | Gauge | Air Relief Valve | Flow Meter | Disinfe | ectio | n System |
| following? | No | Yes | No | No | No | | Y | ec |



| Well Name | North Wel |
|----------------------------------------------------------------------------|--------------------|
| Does the well have a blow off? | No |
| Does the well have a raw water sample tap? | No |
| Does the well have a treated water sample tap? | Yes |
| Does the casing extend at least 18" above the ground? | No |
| Is the well vent height at least 18" above ground level? | No |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | No* |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | No |
| Is the well under the influence of surface water? | No |
| Does the well need a GUDI test/evaluation? | No |
| Is the well near any sources of contamination? | Yes** |
| Does the system monitor raw water quality? | Yes: Fe, Mn, pH |
| Has there been a source water assessment at this well? | No |

* There are gaps on both sides of the well head where electrical conduit enters.

^{**} There is an abandoned well within 20' of the well head (The abandoned well is thought to be only 1 or 2 feet deep). The well is adjacent to a run off pond used for geothermal heating/cooling.



| Well Name | Ca | mp pacity om) | Well Depth | Depth Intake | The second second | ilability e (P,E) | | tivity de (A,I) |
|-------------------------|----------------|---------------------|---------------------------|------------------------|-------------------|----------------------|-------|--------------------|
| Well 3 | | 70 | 240' | 180-20 | 0, | P | -310 | A |
| Pumping records kept | ? Da | te nstructed | Static Water Level | Casing Type | | meter | | mp orsepowe |
| Yes | 200 | 05 | 65' | PVC | 12 12 | 8" | | 10 |
| Power Phase | | | Pump contro protected? | | | iliary er? | | Dom De |
| | 3 | | Y | es | trees an in | Yes | | lines the |
| Well Conditi | | | | 2. 美三性 | | | | |
| Is site securi | ty Adequ | iate? | | | | | | Yes |
| Is well house | or pum | p subject to | flooding? | | | | | No |
| Does all equ | ipment h | ave adequa | te access for re | pair/repl | acement? | geat dust | | Yes |
| Is lightning | protectio | n available | for the pump? | in lighter | w saft been | ria Bays | | No |
| Has the pum | p or con | trols ever b | een damaged b | y lightni | ng? | and right | a le | No |
| Is electrical | equipme | nt secured a | ngainst weather | , insects | and anim | als? | n y | Yes |
| Are pumps | equipped | with elapso | ed time meters' | settleners | la rooman | . ZILE 163 | - 11 | Yes |
| Is there an e | mergenc | y connectio | n to another w | ater sour | ce? | arena misa | | Planned |
| Are operation | nal reco | rds maintai | ned? | | | | | Yes |
| Type alarm | present f | for pump fa | ilure? | | | | 100 | None |
| Is the Pump | Check Valve | Isolation Valve | Gauge | Air Relief Valve | Flow Meter | Disinfe | ectio | n System |
| equipped with the | | Iraw-all m | II THE HUNDE | | | | | |



| Well Name | Well 3 |
|----------------------------------------------------------------------------|-------------------|
| Does the well have a blow off? | No |
| Does the well have a raw water sample tap? | Yes |
| Does the well have a treated water sample tap? | Yes |
| Does the casing extend at least 18" above the ground? | No |
| Is the well vent height at least 18" above ground level? | No* |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | No** |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | Yes*** |
| Is the well under the influence of surface water? | No |
| Does the well need a GUDI test/evaluation? | No |
| Is the well near any sources of contamination? | Yes*** |
| Does the system monitor raw water quality? | Yes: Fe Mn, pH |
| Has there been a source water assessment at this well? | No |

^{*} The well vent is not turned over and the screen is not 24 mesh.

^{**} There is a gap where the electrical line enters the well head.

^{***} The well pad does not extend at least 3 feet from the well casing in all directions.

^{****} There is a treated waste water pond about 400' from the well.



| Well Name | | mp pacity | Well Depth | Dept. Intak | | Availability Code (P,E) | | ctivity ode (A,I) |
|----------------------------------------|----------------|--------------------|-----------------------|------------------------|--------|-----------------------------|---------------|----------------------|
| | | om) | | | | | | |
| Well 4 | | 50 | 240' | 180-2 | 200' | P | | A |
| Pumping records kept | ? Da | nte onstructed | Static Water Level | Casii Type | - | Casing Diameter (in.) | | ımp orsepowe |
| Yes | 20 | 05 | 90' | PV | /C | 8" | | 10 |
| Power Phase | | | Pump controprotected? | ols | Libra | Auxiliary power? | | Dus the |
| | 3 | | Y | es | | Yes | | |
| Well Condition | ons | | | | | | Signal Signal | |
| Is site securi | ty Adequ | iate? | no no malest en | | | | | Yes |
| Is well house | or pum | n subject to | flooding? | | | | | No |
| | | ,, | | | | | | |
| Does all equi | pment h | ave adequa | te access for re | epair/re | placer | nent? | | Yes |
| Is lightning p | protectio | n available | for the pump? | | 100000 | | 11900 | No |
| Has the pum | p or con | trols ever b | een damaged l | y lighti | ning? | | | No |
| Is electrical | equipme | nt secured a | against weathe | r, insect | s and | animals? | | Yes |
| Are pumps o | quipped | with elapse | ed time meters | ? | | | 111 TH | Yes |
| Is there an e | mergenc | y connectio | n to another w | ater sou | irce? | | | Planned |
| Are operation | nal reco | rds maintai | ned? | | | | oul s | Yes |
| Type alarm | present f | for pump fa | ilure? | | 1-4 | o julin essib fac | Ny | Yes, thru SCADA |
| Is the Pump equipped with the | Check Valve | Isolation Valve | Gauge | Air Relief Valve | Flor | | fection | on System |
| following? | | Yes | Yes | Yes | | /es | | es |



| Well Name | Well 4 |
|----------------------------------------------------------------------------|-------------------|
| Does the well have a blow off? | Yes |
| Does the well have a raw water sample tap? | Yes |
| Does the well have a treated water sample tap? | Yes |
| Does the casing extend at least 18" above the ground? | Yes |
| Is the well vent height at least 18" above ground level? | Yes |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | Yes |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | Yes* |
| Is the well under the influence of surface water? | No |
| Does the well need a GUDI test/evaluation? | No |
| Is the well near any sources of contamination? | Yes** |
| Does the system monitor raw water quality? | Yes: Fe Mn, pH |
| Has there been a source water assessment at this well? | No |

* The well pad does not extend 3 feet in all directions.
** There is a treated waste water pond about 400' from the well.



| Batch Plant E | Ca (gr | mp pacity om) | Well Depth | Depth of Intake | | ability (P,E) | No. of the last | tivity de (A,I) |
|------------------------------------------------------------------------|--------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------|------------------|-----------------|-------------------------------------|
| Well | ast | 55 | 220' | Unknown | | P | | Ţ. |
| Pumping records kept | | nte enstructed | Static Water Level | Casing Type | Casir Diam (in.) | ng neter | Pur | rsepower |
| Yes | 20 | 06 | 90' | PVC | | 8" | | 5 |
| Power Phase | | | Pump contro protected? | ls | Auxi | | ave s | |
| | 3 | | Ye | es | 5 | Yes | | |
| Well Condition | ons | | | | ALC: N | | | |
| Is site securi | ty Adequ | iate? | | | | | | Yes |
| Is well house | or num | n subject to | flooding? | | | | | No |
| is well house | or puin | p subject to | nooding. | | | | | 110 |
| Does all equi | nmont h | 1 | | | | | | |
| Does an equi | ршент | ave adequa | te access for re | pair/replace | ement? | | | Yes |
| | | | for the pump? | pair/replace | ement? | - | 480 | Yes |
| Is lightning p | orotectio | n available | | | | 16 | /80 | |
| Is lightning p | protection | n available trols ever b | for the pump? | y lightning' | • | ls? | (80) | No |
| Is lightning p Has the pum Is electrical | p or con | n available trols ever b nt secured a | for the pump? | y lightning' , insects an | • | ls? | /B0 | No No |
| Is lightning p Has the pum Is electrical of | p or con equipme | n available trols ever b nt secured a with elapse | for the pump? een damaged b ngainst weather | y lightning' , insects an | d anima | ls? | 797 | No No Yes |
| Is lightning p Has the pum Is electrical of | p or con equipme equipped mergenc | n available trols ever b nt secured a with elapse y connectio | for the pump? een damaged b against weather ed time meters? n to another wa | y lightning' , insects an | d anima | ls? | 780 | No No Yes Yes |
| Is lightning p Has the pum Is electrical of Are pumps of Is there an e | p or con equipme equipped mergenc | n available trols ever b nt secured a with elapse y connectio rds maintai | for the pump? een damaged b against weather ed time meters? n to another wa ned? | y lightning' , insects an | d anima | ls? | 797 | No No Yes Yes Planned |
| Is lightning p Has the pum Is electrical of Are pumps of Is there an e | p or con equipme equipped mergenc | n available trols ever b nt secured a with elapse y connectio rds maintai | for the pump? een damaged b against weather ed time meters? n to another waned? ilure? Pressure Gauge | y lightning , insects an ater source: | d anima | To ben | ection | No No Yes Yes Planned Yes Yes, thru |

^{*} There is no screen on the air relief valve



| Well Conditions cont'd | |
|----------------------------------------------------------------------------|---------------------------|
| Well Name | Batch Plant East Well |
| Does the well have a blow off? | Yes |
| Does the well have a raw water sample tap? | Yes |
| Does the well have a treated water sample tap? | Yes |
| Does the casing extend at least 18" above the ground? | Yes |
| Is the well vent height at least 18" above ground level? | Yes |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | No, the well cap is loose |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | Yes |
| Is the well under the influence of surface water? | No |
| Does the well need a GUDI test/evaluation? | No |
| Is the well near any sources of contamination? | Yes* |
| Does the system monitor raw water quality? | Yes: Fe, Mn, pH |
| Has there been a source water assessment at this well? | No |

^{*} The well is adjacent to a driveway and within 90 feet of a earthen canal.



| | Pu | ımp | Well Depth | Depth o | of | Availabi | ility | Act | tivity |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------|----------|----------------|-------|--------------------------------------|
| | Ca | pacity | | Intake | | Code (P | ,E) | Co | de (A,I) |
| | | pm) | | | | | | | |
| Batch Plant Wo | est | | 474-75-55 | | | | | | |
| Well | | 55 | 220' | Unknov | | P | | | A |
| Pumping | 1000000 | ite | Static Water | 0 | | Casing | | Pu | - |
| records kept? | Co | onstructed | Level | Type | ra Idi | Diamete | er | Ho | rsepowe |
| | | | | | | (in.) | | | |
| Yes | 20 | 06 | 90' | PVC | | 8" | | 20, 1 | 5 |
| Power Phase | | | Pump contro | | - | Auxiliar | ry | | |
| | | | protected? | | -5100 | power? | | | |
| | 3 | | Y | es | | Yes | | Ш | |
| Well Condition | ıs | | | | | | | | |
| Is site security | Adequ | iate? | | | | | | | Yes |
| Is well house o | \ M P\ 11 PA | n subject to | flooding? | | | | | | No |
| is well flouse (| or pum | p subject to | nooung: | | | | | | 140 |
| | | | | | | | | - 1 | |
| Does all equip | ment h | ave adequa | te access for re | pair/repla | acem | ent? | | | Yes |
| | | | te access for re | pair/repla | acem | ent? | - | | Yes |
| Is lightning pr | otectio | n available | 100 to 10 | | | ent? | | | |
| Is lightning pr | otectio or con | n available trols ever b | for the pump? | y lightnin | ıg? | | quina value | | No |
| Is lightning properties the pump | or con | n available trols ever b nt secured a | for the pump? een damaged b against weather | y lightnin , insects a | ıg? | | | | No No Yes* |
| Is lightning progressions. Has the pump | or con | n available trols ever b nt secured a | for the pump? | y lightnin , insects a | ıg? | | | | No No |
| Is lightning programmed the Has the pump Is electrical equation of the pumps equation in the pump equation in the pu | or con uipme | n available trols ever b nt secured a | for the pump? een damaged b against weather | y lightnin , insects a | ng? and a | | | | No No Yes* |
| Is lightning programmed the Has the pump Is electrical equation of the pumps equation in the pump equation in the pu | or con quipmen uipped ergenc | n available trols ever b nt secured a with elapse y connection | for the pump? een damaged b against weather ed time meters? n to another wa | y lightnin , insects a | ng? and a | | | | No No Yes* |
| Is lightning properties the pump Is electrical equal to the pumps equ | or con quipment uipped tergency | n available trols ever b nt secured a with elapse y connection | for the pump? een damaged b against weather ed time meters? n to another wa ned? | y lightnin , insects a | ng? and a | | | | No No Yes* Yes Planned Yes Yes, thru |
| Is lightning properties the pumps equipment of the selectrical equipment o | or con quipment uipped nergence al recon | n available trols ever b nt secured a with elapse y connection rds maintai or pump fa | for the pump? een damaged b against weather ed time meters? n to another wa ned? ilure? | y lightnin , insects a | ng? and a | nnimals? | sinfe | | No No Yes* Yes Planned Yes Yes, thru |
| Is lightning properties. Has the pump Is electrical equipment of the pumps equipment of the pumps equipment of the pumps and the pumps equipment of the pumps equipment equ | or con quipment uipped tergency | n available trols ever b nt secured a with elapse y connection | for the pump? een damaged b against weather ed time meters? n to another wa ned? ilure? Pressure Gauge | y lightnin, insects a | ng? and a | nimals? | sinfe | | No No Yes* Yes Planned Yes Yes, thru |

^{*} The electrical line serving the well is not incased in conduit.

^{**} There is no screen on the air relief valve



| Well Name | Batch Plant West Well |
|----------------------------------------------------------------------------|--------------------------|
| | west well |
| Does the well have a blow off? | Yes |
| Does the well have a raw water sample tap? | Yes |
| Does the well have a treated water sample tap? | Yes |
| Does the casing extend at least 18" above the ground? | Yes |
| Is the well vent height at least 18" above ground level? | There is no vent |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | No* |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | Yes |
| Is the well under the influence of surface water? | No |
| Does the well need a GUDI test/evaluation? | No |
| Is the well near any sources of contamination? | Yes** |
| Does the system monitor raw water quality? | Yes: Fe, Mn, pH |
| Has there been a source water assessment at this well? | No |

^{*} The well head is missing the cap and is sealed with duct tape.
** The well is adjacent to a building parking lot, about 100 feet from a Bermuda grass. sod operation, and about 60 feet from an earthen canal.



| Well Name | P | ump | Well Depth | Depth of | Availabil | lity | Activity |
|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------|------------|---------------------------------------------------|
| | C | Capacity | | Intake | Code (P, | | Code (A,I) |
| lloW | (8 | gpm) | | | | | |
| Roadway W | ell | 40-50 | 200' | Unknown | Р | | Α |
| Pumping | | ate | Static Water | | Casing | | Pump |
| records kep | t? C | onstructed | Level | Type | Diameter | | Horsepowe |
| | | | Small | demail only | (in.) | J. T. III. | |
| Yes | 20 | 006 | 40' | Steel | 8" | | 5 |
| Power Phas | | - | Pump contro | | Auxiliary | v | |
| | | | protected? | | power? | ' | |
| | | | | | | | |
| Well Conditi | 3 | | Ye | es | Yes | | |
| Is site secur | | noto? | | | | ED.R | 17 |
| is site secur | ny Aucq | uate: | | | | | Yes |
| Is well hous | e or pum | p subject to | flooding? | | | | Yes* |
| | | | | | | | |
| | | | | | | | |
| Does all equ | ipment l | nave adequa | te access for re | pair/replace | nent? | | Yes |
| 7.11 | | | te access for re | pair/replacei | nent? | - | |
| Is lightning | protection | on available | | | nent? | | Yes |
| Is lightning Has the pun | protection | on available ntrols ever b | for the pump? | y lightning? | | | Yes |
| Is lightning Has the pun Is electrical | protections protection or core | on available ntrols ever b | for the pump? een damaged by | y lightning? | | | Yes No No Yes |
| Is lightning Has the pun Is electrical | protections protection or core | on available ntrols ever b | for the pump? | y lightning? | | | Yes No No |
| Is lightning Has the pun Is electrical Are pumps | protections or consequipment | on available ntrols ever b ent secured a | for the pump? een damaged by | y lightning? , insects and | | | Yes No No Yes |
| Is lightning Has the pun Is electrical Are pumps | protection protection or consequipment of the conse | on available itrols ever b ent secured a l with elapse ey connectio | for the pump? een damaged by against weather ed time meters? n to another wa | y lightning? , insects and | | | Yes No No Yes Yes |
| Is lightning Has the pun Is electrical Are pumps Is there an e | protections or consequipment of the consequipment o | on available itrols ever be ent secured a d with elapse ey connection | for the pump? een damaged by against weather ed time meters? n to another wa ned? | y lightning? , insects and | | | Yes No No Yes Yes Yes Planned Yes Yes, thru |
| Is lightning Has the pun Is electrical Are pumps Is there an e Are operation | protections or consequipment of the consequipment o | on available itrols ever be ent secured a d with elapse ey connection | for the pump? een damaged by against weather ed time meters? n to another wa ned? ilure? | y lightning? , insects and | animals? | infect | Yes No No Yes Yes Planned Yes |
| Is lightning Has the pun Is electrical Are pumps Is there an e Are operation Type alarm Is the Pump equipped | protection processing of the contract of the c | on available itrols ever be ent secured a d with elapse ey connection ords maintain for pump fa | for the pump? een damaged by against weather ed time meters? n to another wa ned? ilure? Pressure Gauge R | y lightning? , insects and ter source? | animals? | infect | Yes No No Yes Yes Yes Planned Yes Yes, thru SCADA |
| Is lightning Has the pun Is electrical Are pumps Is there an e | protection processing of the contract of the check | on available atrols ever be the secured and with elapse by connection ords maintain for pump fa | for the pump? een damaged by against weather ed time meters? n to another wa ned? ilure? Pressure Gauge R | v lightning? insects and ter source? ir Flowelief Met | animals? | infect | Yes No No Yes Yes Yes Planned Yes Yes, thru SCADA |

^{*} The well is in a vault in the middle of a roadway.



| Well Name | Roadway Well |
|----------------------------------------------------------------------------|--------------------|
| Does the well have a blow off? | No |
| Does the well have a raw water sample tap? | No |
| Does the well have a treated water sample tap? | Yes |
| Does the casing extend at least 18" above the ground? | No |
| Is the well vent height at least 18" above ground level? | No |
| Is the sanitary seal intact (or are there any holes or open penetrations)? | No* |
| Is turbine pump water leaking? | N/A |
| Is a concrete pad around the well? | No |
| Is the well under the influence of surface water? | Yes |
| Does the well need a GUDI test/evaluation? | No |
| Is the well near any sources of contamination? | Yes** |
| Does the system monitor raw water quality? | Yes: Fe, Mn, pH |
| Has there been a source water assessment at this well? | No |

* Because the well is in a vault, the vent compromises the sanitary seal.

^{**} The well is located in a roadway and within 60 feet from the geothermal water pond.

| | 10% Sodium | Where is the | After RO |
|---------------------------------------------------|-------------|---------------------------------------------------------|------------------------------------------------------|
| What type of Disinfection is used? | Hypochorite | disinfection application point? | 198,399° a. June Charles 198,399° a. al. viguzone |
| Is liquid solution adequately mixed? | Yes | Continuous Operation? | Yes |
| Is liquid solution tank covered? | Yes | Adequate stand-by equipment? | Yes |
| Are there spill containment provisions? | Yes | Is there a working 4-in- 1 valve? | Yes |
| Can feed pump operate within the necessary range? | Yes | Is there a fail safe device attached to a flow switch? | Yes, at the PLC |
| How often is dosage checked? | Daily | Are daily operating records maintained? | Yes |
| What is the chlorine usage rate? | 5-6 gpd | Have there been any interruptions in disinfection? Why? | Not in the last year |
| Is the disinfection building safe and secure? | Yes | Is residual measured daily at the feed point? | Yes, continuous monitoring |
| What is the chlorine residual goal? | >1 ppm | Are cross connections present in the chlorination room? | No |



EPA Region 6 Sanitary Survey Form Disinfection (Cont'd)

Name of Disinfection Unit

Will the first customer receive chlorinated water with adequate contact time to inactivate 99.99% of viruses?

The 20K gallon raw water tank provides contact time for the blended water stream that by-passes the RO treatment. The RO treated water would receive additional inactivation in the finished water storage tank but the blended water does not so it is most critical (lowest chlorine contact time). The maximum flow through the tank is controlled by the flow exiting the tank, which is greatest when the 700 gpm RO booster pump and the 250 gpm blending pumps are both running. Assuming the baffling factor at the finished water tank is 0.07 then the detention time through the tank is

 $20,000 \text{ gall } \times 0.07/950 \text{ gpm} = 1.4 \text{ minutes}.$

If the recommended CT for virus inactivation is 6 mg-min/l (worst case assumption), the chlorine residual to meet the recommended CT would be 6/1.4 = 4.3 ppm free chlorine. This is in excess of the maximum residual disinfection level allowed by the National Primary Drinking Water Regulations of 4 mg/l so the current arrangement is not sufficient to provide virus inactivation under the Ground water rule if it were to be applied. However, with the need to meet *giardia* inactivation requirements (due to the GUDI wells), 1.4 minutes would not be adequate. The following table shows the contact time needed for inactivation of giardia assuming a worst case water temperature of 5 C and a pH of 8 and assuming the disinfection process only had to inactivate 0.5 log *giardia* following filtration.

| Assumed Concentration | CT (from tables) for .5 log inactivation of giardia | DT (min) |
|------------------------------|-----------------------------------------------------|----------|
| 0.5 | 34 | 68.00 |
| 1 | 36 | 36.00 |
| 1.5 | 38.5 | 25.67 |
| 2 | 41 | 20.50 |
| 2.5 | 42.5 | 17.00 |
| 3 | 45 | 15.00 |
| 3.5 | 47 | 13.43 |
| 4 | 49 | 12.25 |

The current finished water storage tank arrangement that allows 1.4 minutes of effective contact time will not be adequate to meet the inactivation requirements of the SWTR.

NOTE: The two chlorination feed points are both fed from the same chlorine feeder, through separate chlorine feed pumps. If the river wells are reclassified as groundwater under the direct influence of surface water wells, then the chlorine feed system will have to be rearranged to feed from two separate chlorine feeders. There is a possibility with the current arrangement that water could bypass the RO unit when the RO booster pumps are turned off and the river wells are pumping (filling the raw water storage) if the check valve in the chlorine feed pump fails. This represents a cross connection and would have to be addressed through separate chlorine feeders.



EPA Region 6 Sanitary Survey Form Chemical Feed Facilities

| Water System Name | Firelake Grand Casino Water System | | Plant Name | Grand Casin | no Plant | |
|--------------------------------------------------------------|---------------------------------------|------------------------------------|-----------------------------------------------|------------------------------------|-----------------------------------------------------|--|
| Chemicals in Use | | | | | | |
| | Chemical Name and Strength | Chemical Name and Strength | Chemical Name and Strength | Chemical Name and Strength | Chemical Name and Strength | |
| | Polyphosphate | Anti Scalant | Sodium Bisulfite, chlorine neutralization | | liste) located allowe the | |
| Dosage | Based on residual, adjusted by PLC | 0.3 lb/day (2.5 ml/min) | | | omitaline (Favel | |
| Point of Use | Before finished storage | Just prior to RO | Just prior to RO | es i | olahpa lora la elga lama | |
| Reason for Use | Stability enhancement | Prevent scaling on membranes | Remove residual chlorine prior to RO | de la | en emili se en | |
| Are Chemicals Stored Properly? | Yes | Yes | Yes | | ndi si nen i e len nen i | |
| Method for Determining Dose | Poly test/keep below 0.20 | Programed thru PLC | lenr senso | | 37 | |
| Is solution adequately mixed? | Yes | Yes | Yes | | | |
| Is appropriate PPE and safety equipment present? | Yes | Yes | Yes | Eartenes la malana Jeografia | nda sociale na mascale ta la ambana 1 (3.1 | |
| Is the solution | Yes | Yes | Yes | | | |

| tank covered? | | | | al ANG | | |
|------------------------------------------------------------|------|------|----------------------------------------------|----------------------------------------|------------------------------------------|--------------------------------|
| Is the foot valve in a vertical position? | Yes | 25 | Yes | Summary of Demical Fo | , | |
| | | 71 | | and Casing | (i) solstenii) | |
| Is it about 2 inches above the bottom? | No | | Yes | | | |
| Is the | | | | an amolf | from an air | |
| return line (bleed | Yes | | Yes | Strength | Strength | |
| line) located above the maximum | | | Sodiom Hisultite chlorino regualiza | aute Auti Scalian | igeorigg;n81 | |
| solution level? | | | | entwill E.O.; | Russed on residual, | |
| Is there adequate supply of each chemical? | Yes | 68 | Yes | com sail CIR-si | Indiana Indiana Indiana Indiana | at O'To ta |
| Are there any cross connections associated | No | 100% | No | maverille to gallage in manifest | Supplies | TOLETON |
| with the chemical feed system? | | | | No. | zoY . | |
| Chemical Feed P | umps | | | | | |
| | | Ту | ame and ope of omp | Name and Type of Pump | Name and Type of Pump | Name and Type of Pump |
| | | LN | II | Feed pump* | Feed pump* | Feed |
| Are operational of and instrumental operational and (PLC)? | tion | No |) | No | Yes | yes |
| Function | | Po | lyphosphate | Chlorine feed (x2) | Anti-Scalant feed | Sodium Bisulfite |

| Is Capacity Appropriate? | Yes | Yes | Yes | Yes |
|------------------------------------------------------------------------------------------------|------|---------------|------------------|------------------|
| Condition | Good | Good | Good | Good |
| Frequency of Calibration | | | | |
| Is a back up pump maintained? | Yes | Yes | Yes | Yes |
| What is the pressure rating of the pump? | 150 | Not available | Not available | Not Available |
| Is the chemical feed pump tied to well pump operation? | No | No | No | No |
| Is there a fail safe switch or device? | Yes | Yes | Yes | Yes |
| Are daily operating records maintained? Do they reflect chemical dosages and pump maintenance? | No | No | No | No |

^{*} Thermo static Master flex, peristaltic pumps for two chlorine feeds and for anti scalant and one for the sodium bisulfate.



EPA Region 6 Sanitary Survey Form Process Control Monitoring

| Parameter? | Where sample is from?* | When sample is taken and how often? | Method used? | Reagents and Methods adequate? |
|---------------|------------------------|-------------------------------------|------------------|--------------------------------|
| Turbidity | Raw/Finished | Daily | TOUCH . | Equality of |
| Alkalinity | Finished Water | Daily | 1986). 1891 | |
| Conductivity | Raw/Finished Water | Daily | | Tarentar |
| pН | Raw/Finished Water | Daily | POY I Halter | |
| Free chlorine | Finished Water | Daily | Alestrónia | Historya vilus |
| Polyphosphate | Finished Water | Daily | 381 | l lesimedă m |
| Fe | Raw/Finished Water | Daily | | ard John Sperios |
| Mn | Raw/Finished | Daily | enter the sodium | Lan Indian |

^{*} The finished water sample site is labeled TP001.



EPA Region 6 Sanitary Survey Form Reverse Osmosis

| Name of RO treatment facility | Firelake Grand Casino Water System |
|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Treatment Objective? | TDS/Conductivity reduction (95% conductivity reduction is the goal) |
| Finished water Goals? | Turb around 0.02 Conductivity ~ 95% removal Fe/Mn ~ None detectable |
| How often is process control testing done? What testing is done? What are process control goals? | Daily |
| How often is membrane backwashed? Cleaned? | 30 second backwash after a rack shuts down. The racks alternate. |
| Type of cleaning solutions: | If conductivity removal <95% they do a soft clean (all 3 racks at once). If it is still too low each rack is cleaned individually. |
| What is the fouling rate of the filter? (days) | A few years. They replaced them 2.5 years ago because chlorine got thru and damaged the membranes. |
| What is the life of the membrane? (months) | ls there a fail safe to prevan prevace from going below |
| Type of pre-treatment? (I.e. Screen, Microorganism removal, colloidal removal.) | Chlorine to prevent bio growth, followed by GAC filter to remove chlorine. Sodium Biosilfite for chlorine neutralization |
| Is pretreatment in good working order? | Yes |
| Are valves and plumbing in good condition? | Yes |
| Is security adequate? | Yes |
| Is treatment building protected from flooding | Yes |
| Can equipment be accessed and removed from the building for maintenance? | Yes |
| Are operational records maintained? | Yes |



EPA Region 6 Sanitary Survey Form Pumps and Pumping Facilities

| Name of Pump Station | Booster pumps at Treatment Plant | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--|
| Describe pumps present (Number, types, function) | 2 Raw Water blending pumps 2 RO pumps | |
| Pump Capacities (gpm) and Horsepowers | 250 gpm x2 700 gpm x 2 | |
| Are Pump Capacities Adequate (For production pumps: Able to meet average daily demand with largest pump down for 18 hours)? | Yes, peak is 150 gpm | |
| Are flow meters present? Are flow records kept? | Yes/ on SCADA | |
| In the case of Booster pumps, is there a pressure gauge on the suction and discharge side of the pump? Is there a fail safe to prevent the suction pressure from going below 10 psi? Is the discharge side pressure excessive? | Both are receiving water from raw water storage. There is an alarm on the SCADA sto raw water tank No | |
| Are redundant pumps present? Is there an isolation valve for each pump? | Yes, Yes | |
| Do Pumps have excessive vibration or heat when running? | No | |
| Is lubrication oil food grade and in good shape? | N/A | |
| Are cross connections present at water lubricated pumps? Is each pump equipped with a check valve? | N/A | |
| Are adequate alarms present? Fail safe? | Yes | |

| Are pumps equipped with elapsed time meters? | Yes, in SCADA | | |
|------------------------------------------------------------------|---------------|--|--|
| Are operational records maintained? | Yes, in SCADA | | |
| Pumping facilit | ties | | |
| Is the pump facility used for incompatible storage? | No No | | |
| Is the facility subject to flooding? | No | | |
| Is the facility secure? | Yes | | |
| Are pump controls in good shape and protected from the elements? | Yes | | |



EPA Region 6 Sanitary Survey Form Pumps and Pumping Facilities

| Name of Pump Station | Booster pump Station 1 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Describe pumps present (Number, types, function) | 2 vertical variable displacement pumps. Move water to a higher pressure plane |
| Pump Capacities (gpm) and Horsepowers | 250 gpm x 2 |
| Are Pump Capacities Adequate (For production pumps: Able to meet average daily demand with largest pump down for 18 hours)? | Yes |
| Are flow meters present? Are flow records kept? | Yes |
| In the case of Booster pumps, is there a pressure gauge on the suction and discharge side of the pump? Is there a fail safe to prevent the suction pressure from going below 10 psi? Is the discharge side pressure excessive? | Yes, 20 psi set point |
| Are redundant pumps present? Is there an isolation valve for each pump? | Yes |
| Do Pumps have excessive vibration or heat when running? | No |
| Is lubrication oil food grade and in good shape? | N/A |
| Are cross connections present at water lubricated pumps? Is each pump equipped with a check valve? | N/A |
| Are adequate alarms present? Fail safe? | |

| Are pumps equipped with elapsed time meters? | Yes |
|------------------------------------------------------------------|------------------------------|
| Are operational records maintained? | Yes |
| Pumping facilities | * Assert September 19 combin |
| Is the pump facility used for incompatible storage? | No* |
| Is the facility subject to flooding? | No |
| Is the facility secure? | Yes |
| Are pump controls in good shape and protected from the elements? | Yes |

^{*} There is an inactive chlorinator in good shape in the pump house that could be used if necessary.



EPA Region 6 Sanitary Survey Form Storage

| ame of Storage Tank | Grand Tank (Standpipe) | Internal Condition | Could not inspect | |
|-------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--|
| pe of Material | Steel | Type of Internal Coating | Ероху | |
| apacity Storage Capacity dequate? | 400K gallons | External Condition | Good | |
| ge | 3 Years | Drain Condition | No drain but hydrant nearby | |
| me since last Cleaning? | Never | Vent and vent Screen Condition | Could not inspect | |
| ve. Detention time (days) | 25 | Overflow Condition | Good | |
| ype of Tank (Side stream flow thru) | Side Stream | Do overflows terminate between 12" and 24" above the splash pad? | Yes | |
| an tank be isolated from se system? | Yes | Do overflows have splash pads? | Yes | |
| the hatch locked and onstructed properly? | Could not inspect | Are roof penetrations at level indicator properly sealed? | Could not inspect | |
| s site security Adequate? | No | Does the level indicator work properly? | No visual indicator, pressure gauge is tie to SCADA | |
| site security Adequate? | No | The state of the s | pressure ga | |

| Is there a need for separate pressure zones? | There are two pressure zones. No need for more. | at the tank? When is the last time it was maintained? Is there a maintenance schedule? Does it work properly? | |
|-------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------|
| How are tank levels controlled? Is it reliable? | Thru SCADA/ Yes | Are there any leaks? | No |
| Does the operator understand the tank level controls? | Yes | Li amoling 2800 dosa | Capenore 14:Stumpe Caponin |



EPA Region 6 Sanitary Survey Form Storage

| Name of Storage Tank | Raw, Gray and Finished Water Storage Tanks | Internal Condition | Good | |
|-----------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------------|-------|--|
| Type of Material | Steel | Type of Internal Coating | Ероху | |
| Capacity Is Storage Capacity Adequate? | 20K gallons each | External Condition | Good | |
| Age | 2005/2006 | Drain Condition | Good | |
| Time since last Cleaning? | Raw water cleaned 7/13. Others, never | Vent and vent Screen Condition | Good | |
| Ave. Detention time (days) | 0.18 (4.3hours at finished tank) | Overflow Condition | Good | |
| Type of Tank (Side stream or flow thru) | Flow thru | Do overflows terminate between 12" and 24" above the splash pad? | Yes | |
| Can tank be isolated from the system? | Yes | Do overflows have splash pads? | Yes | |
| Is the hatch locked and constructed properly? | Yes | Are roof penetrations at level indicator properly sealed? | None | |

| Is site security Adequate? | No | Does the level indicator work properly? | No visual level indicator, pressure reading works at SCADA |
|-------------------------------------------------------|---------------|----------------------------------------------------------------|---------------------------------------------------------------------|
| Is there a need for separate pressure zones? | No | Is there an altitude valve at the tank? When is the last time | No |
| growing. | smould to ag | it was maintained? Is there a maintenance schedule? | belowed to say T |
| heot) | ilimoʻ2 lamas | Does it work properly? | Company Copposite |
| How are tank levels controlled? Is it reliable? | SCADA | Are there any leaks? | No |
| Does the operator understand the tank level controls? | Yes | Saver Suring | (O mal some and |



EPA Region 6 Sanitary Survey Form Storage

| Name of Storage Tank | Coker Tank | Internal Condition | Could not inspect |
|-----------------------------------------------|-------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Type of Material | Steel | Type of Internal Coating | Ероху |
| Capacity Is Storage Capacity Adequate? | 110K gallons | External Condition | Good |
| 194 , 198 | is figure any les | SCAPA F | livel dan ser well |
| Age | 7/2013 | Drain Condition | None, but a hydrant is nearby and can be used |
| Time since last Cleaning? | Never | Vent and vent Screen Condition | Could not inspect |
| Ave. Detention time (days) | Unknown | Overflow Condition | Good |
| Type of Tank (Side stream or flow thru) | Side Stream | Do overflows terminate between 12" and 24" above the splash pad? | Yes |
| Can tank be isolated from the system? | Yes | Do overflows have splash pads? | Yes |
| Is the hatch locked and constructed properly? | Could not inspect | Are roof penetrations at level indicator properly sealed? | Could not inspect the roof for penetrations. There is no visual level indicator |
| Is site security Adequate? | Yes | Does the level indicator work properly? | Yes, via pressure read out |

| Is there a need for separate pressure zones? | No | Is there an altitude valve at the tank? When is the last time it was maintained? Is there a maintenance schedule? Does it work properly? | No |
|-------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| How are tank levels controlled? Is it reliable? | Via a pressure gauge at the pump station. | Are there any leaks? | No |
| Does the operator understand the tank level controls? | Yes | | Swamp Pressures |



EPA Region 6 Sanitary Survey Form Distribution

| Type of Pipe Material and pipe diameter ranges | | | Percent of Leaks | |
|------------------------------------------------------|-------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| PVC, 2-8" | 100 |) | | |
| | and a | Seg | And the such that the second s | |
| | qin | iq. | | |
| System Pressure Range | - 20 | | 50-85 psi | |
| Are there bottle necks? | | | No | |
| Number of pressure zones | | 2 | | |
| Number of booster pump stations | | | 1 | |
| Number of hydrants (flush and fire) | | | 30 | |
| Number of Dead End Lines | | | Maybe 5 | |
| How many PRVs are present? Any issues? | | None | | |
| How many ARVs? How many are in vaults? | | Every hill. Lots of them. Non- in vaults | | |
| Are distribution system maps complete? | | | Yes | |
| Is the system interconnected with any other systems? | | | Building a connection to Potawatomi Co. RWD 3 | |

| Does the system have adequate valving? | Yes | |
|--------------------------------------------------------------------------------------------|------------------------------------|--|
| Are leaks numerous? | No | |
| Does the system have construction standards? | No | |
| Material standards? | No | |
| Are pressure or leak tests performed on all new construction? | Yes, pressure | |
| Are proper backfill and bedding procedures used with new or repaired pipes? | Common sense | |
| What Disinfection procedure is used for new lines and repairs? | Put chlorine on the downhill side. | |
| Does the system have a flushing program? | Yes but no formal plan | |
| Does the system have adequate spare parts and repair supplies for the distribution system? | Yes | |
| Are chlorine residuals tested in distribution? How often and where? | Yes, at 3 furthest points | |
| Are there any known cross connections in distribution? | Not known | |
| What are the frequency of main breaks? | Not often | |
| Are they frequently in specific areas? | Screttyreale | |
| Is there a valve exercise program? | No | |
| What is the condition of the valves? | Good | |



EPA Region 6 Sanitary Survey Form Management/Operations

| Financial Information | | |
|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|--|
| Does the system have an annual operating Budget? | Yes, but they don't usually meet it. | |
| Does the system bill for water? | Yes | |
| What is the fee schedule? | \$3.90 for 1 st 1000 gallons, then \$3.50 per 1000 gallons after | |
| What is your collection rate? | ~95% | |
| If the utility is metered, does it track unaccounted for water? | Not tracked | |
| Does the system develop an annual financial report? | Yes, the utility director develops one | |
| Does the system have emergency funding? | Yes, from the tribe. | |
| How are spending decisions made? | PO system if necessary but Keith gets what he needs and then does the PO after the fact. | |
| Are there sufficient funds for staff training? | Yes, throughout the year | |
| Does the system have a formal accounting system and formal financial records system? | Yes | |
| Does revenue cover operating expenses? | Pretty close but the utility dept does not pay debt and it is not considered part of operating expenses. | |
| Does the system have a source of capital to cover future improvements and projects? | Yes | |

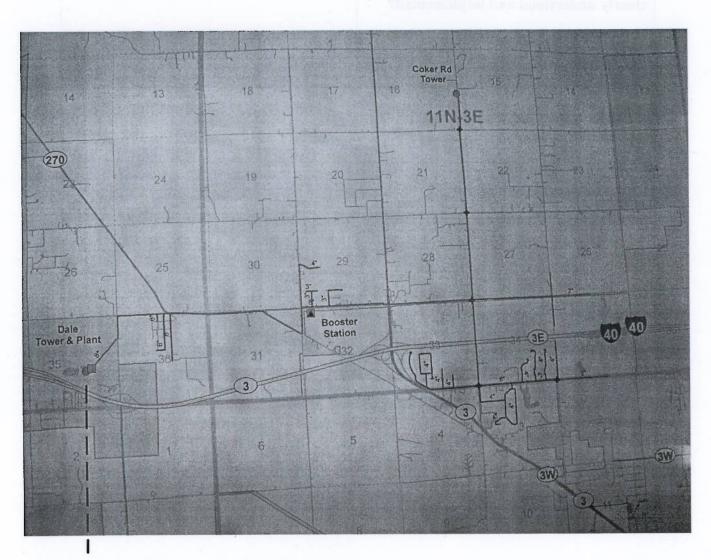
| Planning | | |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------|--|
| Does management know what problems are present at the system? | Richard knows | |
| Has somebody at the system prioritized repair/replacement of critical assets? | Ongoing | |
| Does the system have a written emergency plan? | No | |
| Does the system have a master plan? | No | |
| Does the system have source water protection plan? | No | |
| Has a Capacity Assessment been completed? | No | |
| Is there effective communications between management, operators and customers? | The engineer needs to send plans/drawings to EPA in the future. | |
| Is staffing level adequate? | Yes | |
| Is management familiar with SDWA requirements? | To some extent | |
| Are records kept according to requirements? | Yes, the system only started in 2006 so some records are still ongoing. | |
| (MORs – 3 years Bacti analyses – 5 years | ret shed attempeler , and embassive Capitals might define she | |
| Chemical analyses – 10 years Documentation of Corrective Actions – 3 years | statestine should attime every send and | |
| Sanitary Survey Reports – 10 years) | THE STREET WAS TO STREET THE STREET | |

| Is monitoring/testing adequate? | Yes |
|---------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Does the system do required public notifications? | Never have had to. |
| Does the system do CCR reports? | No, have to this year. |
| Does the system have a list of critical customers? | No, there is a health clinic |
| Are operators properly trained? | Yes |
| Overall water system security | Some improvement needed. |
| Does the water system have an adequate spare parts inventory? | Yes |
| Does the water system have a preventive maintenance program? | No |
| Is there an active and knowledgeable utility board? | No, there is a utility director |
| Is there an asset management program? Is there a system wide inventory of equipment and appurtenances? | No |
| Are operational and financial reports presented by operators/staff to governing body each meeting? | No governing body. The director does reports. |
| Do operators have adequate tools for performing their duties? | Yes |
| Have key governing body officials attended water system management training? | No |
| | |

| Does the system have a drought management plan? | No |
|------------------------------------------------------------------------------------------------------------------|-----|
| Does the system have written policies that are distributed to operators, are clearly understood and implemented? | No |
| Operations | |
| Does the system have a coliform monitoring plan? | Yes |
| | |



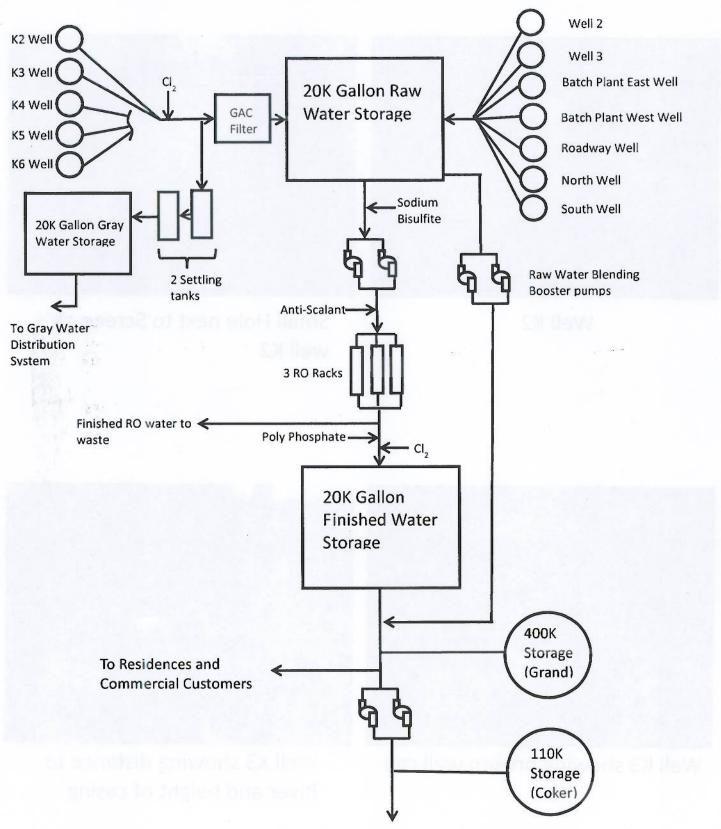
EPA Region 6 Sanitary Survey Form System Map



Line from P Co. RWD 3 will come in here



EPA Region 6 Sanitary Survey Form System Schematic



To Upper pressure plane Residences





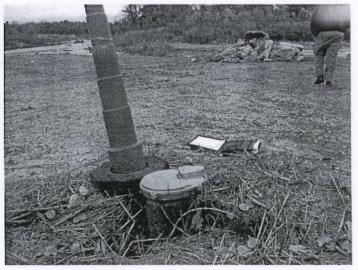
Well K2



Small Hole next to Screen at well K2

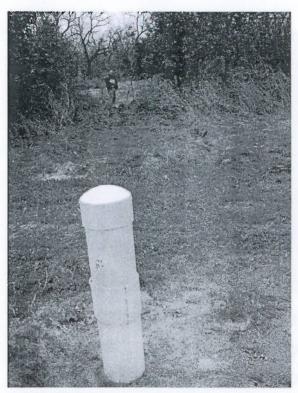


Well K3 showing broken well cap

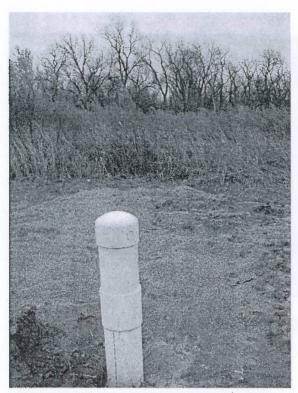


Well K3 showing distance to River and height of casing

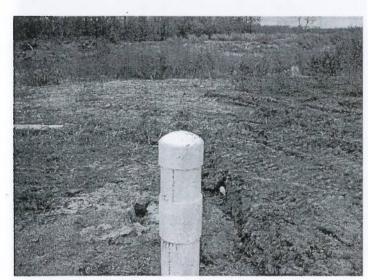




Well K4 casing showing distance to river



Well K5 casing showing distance to river

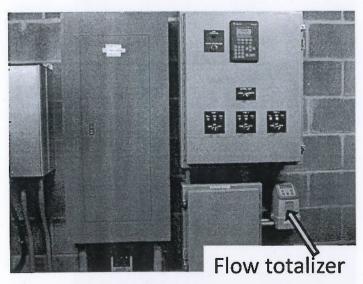


Well K6 casing showing distance to river

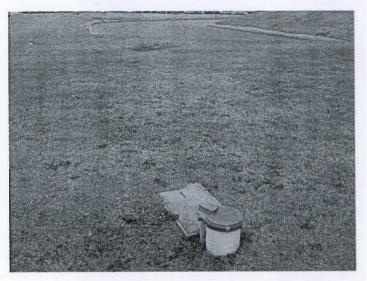


Control building for River Wells (K Wells)





Controls for River Wells



South Well with Geothermal pond in background and showing casing height



South well showing gap where rope enters the well head



North well showing casing height and electrical conduit on two sides.

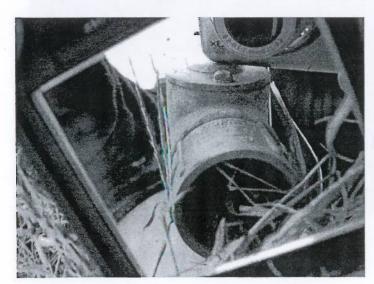




North well showing proximity to geothermal pond



North well showing gap where electrical lines enter on one side

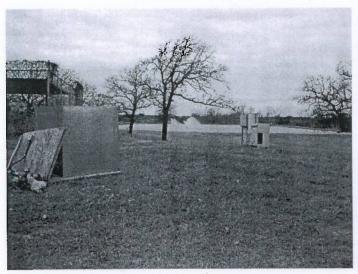


North well showing gap where electrical lines enter the other side

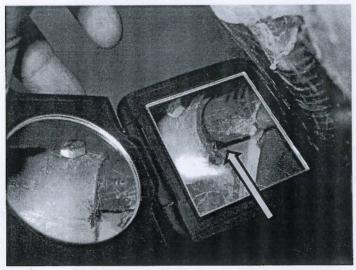


North well showing nearby abandoned well





Well 3 well house showing proximity to waste water pond



Well 3 gap where electrical line enters well head



Torn screen on air relief valve at Well 3

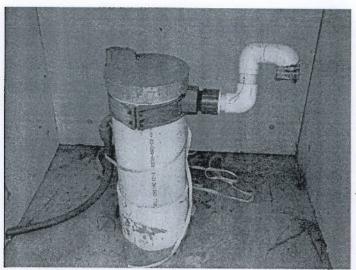


Well 3 showing vent not turned over and too low

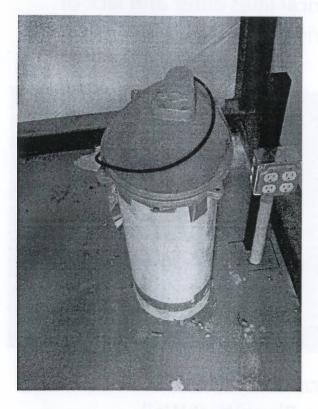




Well 4 well house showing proximity to waste water pond.



Well 4 showing well pad

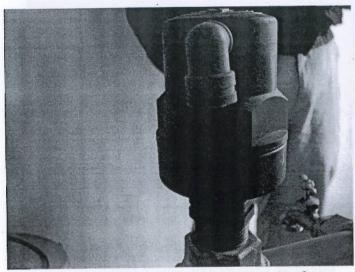


Batch Plant East well

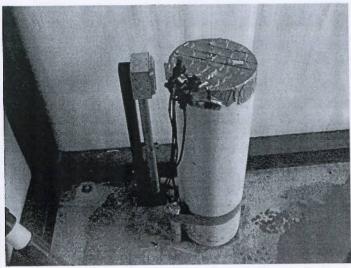


Batch Plant East Well loose well cap and hole at electrical line





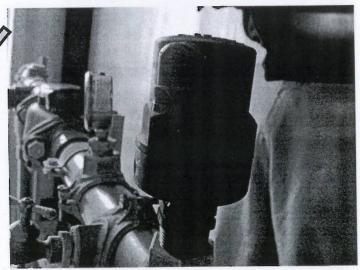
Batch Plant East Well Air relief valve unscreened



Batch Plant West Well showing duct tape cap, hole where electrical lines enter and lack of electrical conduit

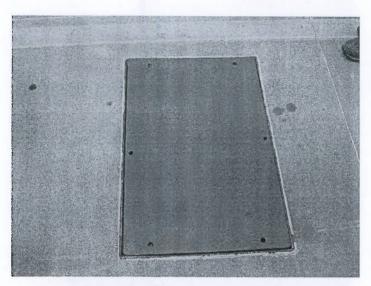


Batch Plant West well house adjacent to parking area and grass farming operations

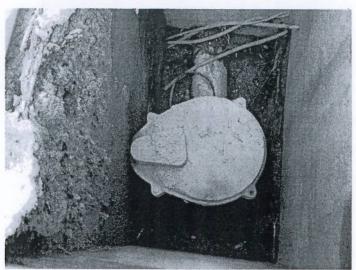


Unscreened air relief valve at Batch Plant West Well

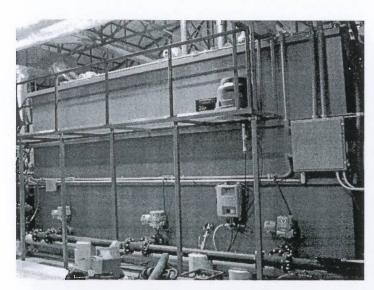




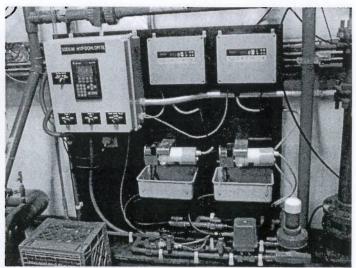
Roadway well vault in Road



Roadway Well in Vault

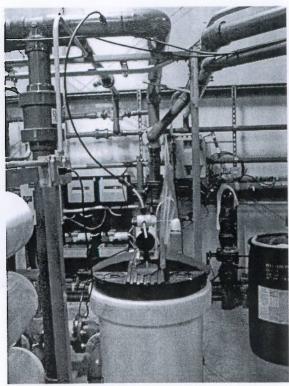


Treatment Plant – GAC Filters

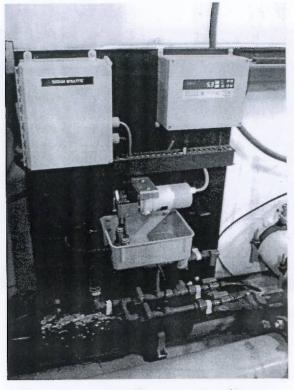


Treatment Plant – Chlorine feed system

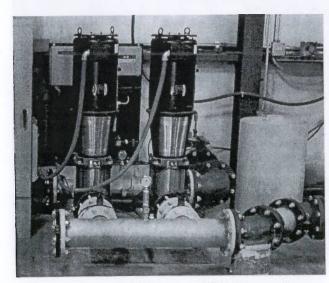




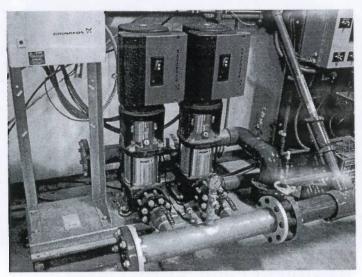
Treatment Plant – Polyphosphate feed system



Treatment Plant – Sodium Bisulfite feed system

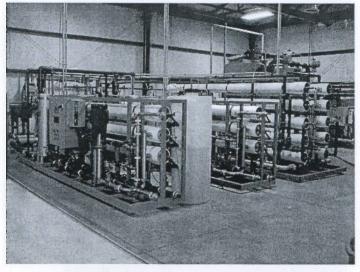


Treatment Plant - RO Booster pumps



Treatment Plant – Blended water Booster pumps

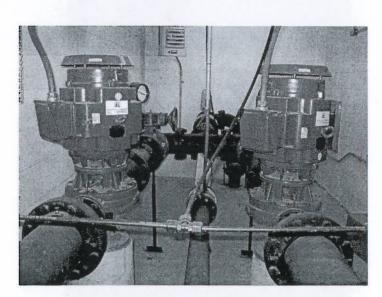




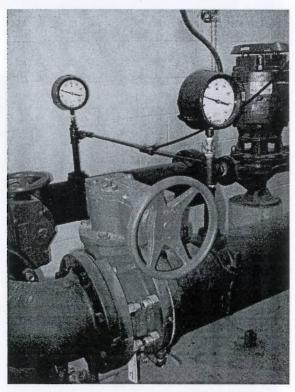
Treatment Plant - RO Racks



Booster pump house

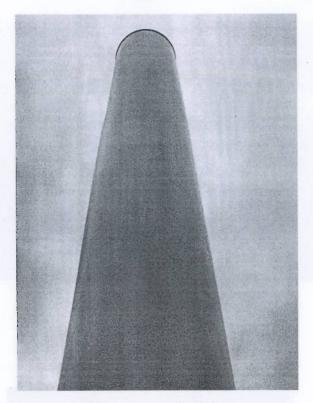


Booster pumps at Booster pump station 1

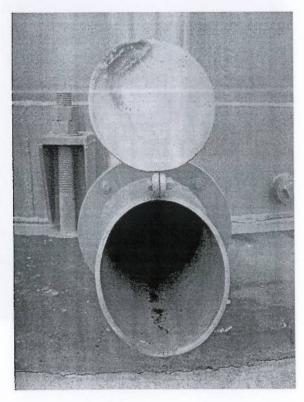


Influent Pressure gauges at Booster pumps

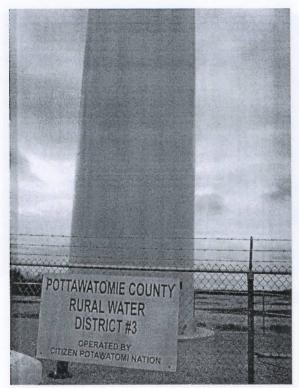


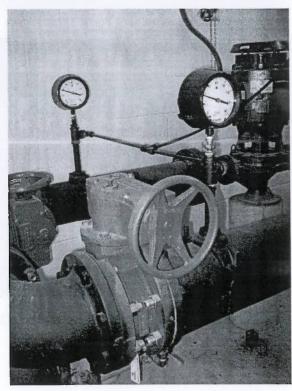


Coker Standpipe



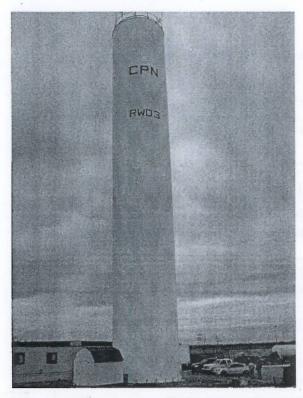
Coker standpipe overflow showing some iron precipitate



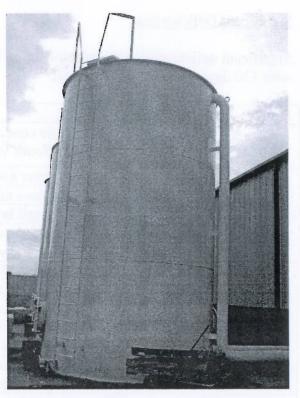


Effluent pressure gauges at Booster pumps





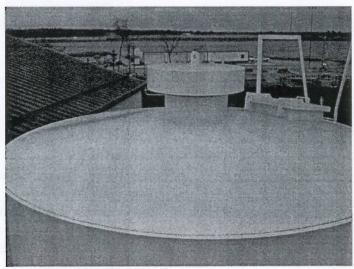
Grand Standpipe



Raw, Gray and Finished water storage tanks



Top of Gray Water Tank



Top of Raw Water Tank

Firelake Grand Casino Water System Findings

Significant Deficiencies

Significant deficiencies must be resolved, or be on an approved schedule for resolution with 120 days of receipt of the report.

| Sources | |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| All wells | There are no concrete pads around any of the K wells or the North and South Wells |
| K2 Well | The flow meter and check valve are buried |
| | The casing does not extend at least 18" above the ground |
| | There is a small hole next to the vent screen in the well cap |
| | There is no blow off, no pressure gauge and no raw water sample tap at the well |
| K3 Well | The flow meter, check valve and isolation valves are buried |
| | There is no blow off and no raw water tap |
| | The casing and vent at K3 do not extend at least 18" from the ground and it has flooded in the past (There are plans to raise it and convert it to a vertical well) |
| | The well casing cap had been damaged and was broken into several pieces, therefore the sanitary seal was not intact. |
| K4 | The well is under the influence of surface water |
| K5 | The well is under the influence of surface water |
| K6 | The well is under the influence of surface water |
| South Well | The well has no flow meter, pressure gauge, blow off, raw water sample tap or check valve. |
| | There is a gap in the well head where a rope enters the casing. This compromises the sanitary seal. |
| | The well casing and vent do not extend at least 18" above the ground |
| North Well | The well has no flow meter, pressure gauge, blow off, raw water sample tap or check valve. |
| | There is an abandoned well within 20' of the north well (said to be only 1 or 2 feet deep) |
| | The well casing and vent do not extend at least 18" above the ground |
| | There are openings in both of the electrical conduits going into the well. |
| Well 3 | The well vent is not 18" above the ground, is not turned over and does not have a 24 mesh screen. |
| | The well 3 pad does not extend 3 feet from the well casing in all directions. |
| | Well 3 does not have a blow off |
| | There is a gap where the electrical conduit is connected to the well casing cap that compromises the sanitary seal. |
| Well 4 | The concrete pad at well 4 does not extend 3 feet in all |
| ₩ C11 ¬ | The contetete paid at work 1 does not extend 5 feet in an |

| | directions. |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------|
| | Well 4 was not locked. |
| Batch Plant West Well | There is no screen on the Batch Plant West well air relief valve |
| | The electrical line connected to the Batch Plant West well is not in a conduit. |
| | The Batch Plant West well does not have a proper well cap (duct tape) |
| | There is no vent on the Batch Plant West well head. |
| | The concrete pad does not extend 3 feet in all directions from the edge of the casing. |
| Roadway well | The roadway well has no flow meter, blow off, raw water sample tap or pressure gauge. |
| | The roadway well is below grade, in a vault |
| Storage | |
| Finished Water Storage tank (20K gallon tank) | The finished water storage tank was put into service in 2006/2007 and has never been inspected/cleaned. |

Deficiencies

Deficiencies must be resolved by the next sanitary survey or they become significant deficiencies.

| Sources | |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Well 3 and Well 4 | The wells are within 400 feet of a treated wastewater pond. (Plans for future wells should be submitted to EPA prior to construction to prevent similar situations.) |
| Batch Plant East Well | There is no screen on the Batch Plant East well air relief valve, however the well is inactive. The screen needs to be fixed before activation. |
| | The well cap is loose on the Batch Plant East well (inactive well needs to be corrected before being activated). It also has a hole where the electrical line enters. |
| Management | There is no emergency plan for the PWS (There was no previous requirement for an emergency plan but this survey will change the water system classification to <i>community</i>). |
| Storage | There is no gasket on the raw/gray or finished water 20K gallon storage tank hatch lids. |

Recommendations

Recommendations are non-binding suggestions.

- 1. Consider improving the security at the K Wells and the storage tanks on the Casino grounds
- 2. The utility should submit plans for the completed K wells to EPA for review.
- 3. Consider adopting construction standards.
- 4. In the future send all engineering plans and specifications to EPA Region 6 for review prior to constructing new facilities or revising existing facilities.

- 5. Recommend adopting AWWA procedure for disinfecting lines after repairs, and after adding new lines.
- 6. Recommend putting together a formal flushing plan
- 7. Recommend tracking non revenue water
- 8. Consider developing a preventive maintenance program
- 9. If the river wells are reclassified as groundwater under the direct influence of surface water, then rearrange the chlorine feed system to have two separate chlorine feeders (chlorine feed tanks and pumps) feeding the two chlorine injection points.